GEOCHEMICAL REPORT
on

RR 1,2,6,7,8,9,10,11
MINERAL CLAIMS

FORT STEELE MINING DIVISION

NTS 82F/16E
82K/1E

LATITUDE 49° 59' N
LONGITUDE 116° 11'W

on
CLAIMS OWNED BY BILLITON CANADA LTD.

by

J.P. FRANZEN,P.ENG.
AUGUST 21, 1984

TABLE OF CONTENTS

FIGURES

MAPS (1:10,000) (IN POCKETS)

A. INTRODUCTION

Occurrences of cassiterite and scheelite in the Greenland Creek-Skookumchuck Creek area have been known for some time. The favorable stratigraphy of the area and its proximity to the Sullivan Mine have resulted in extensive prospecting and exploration work over the past twenty-five years.

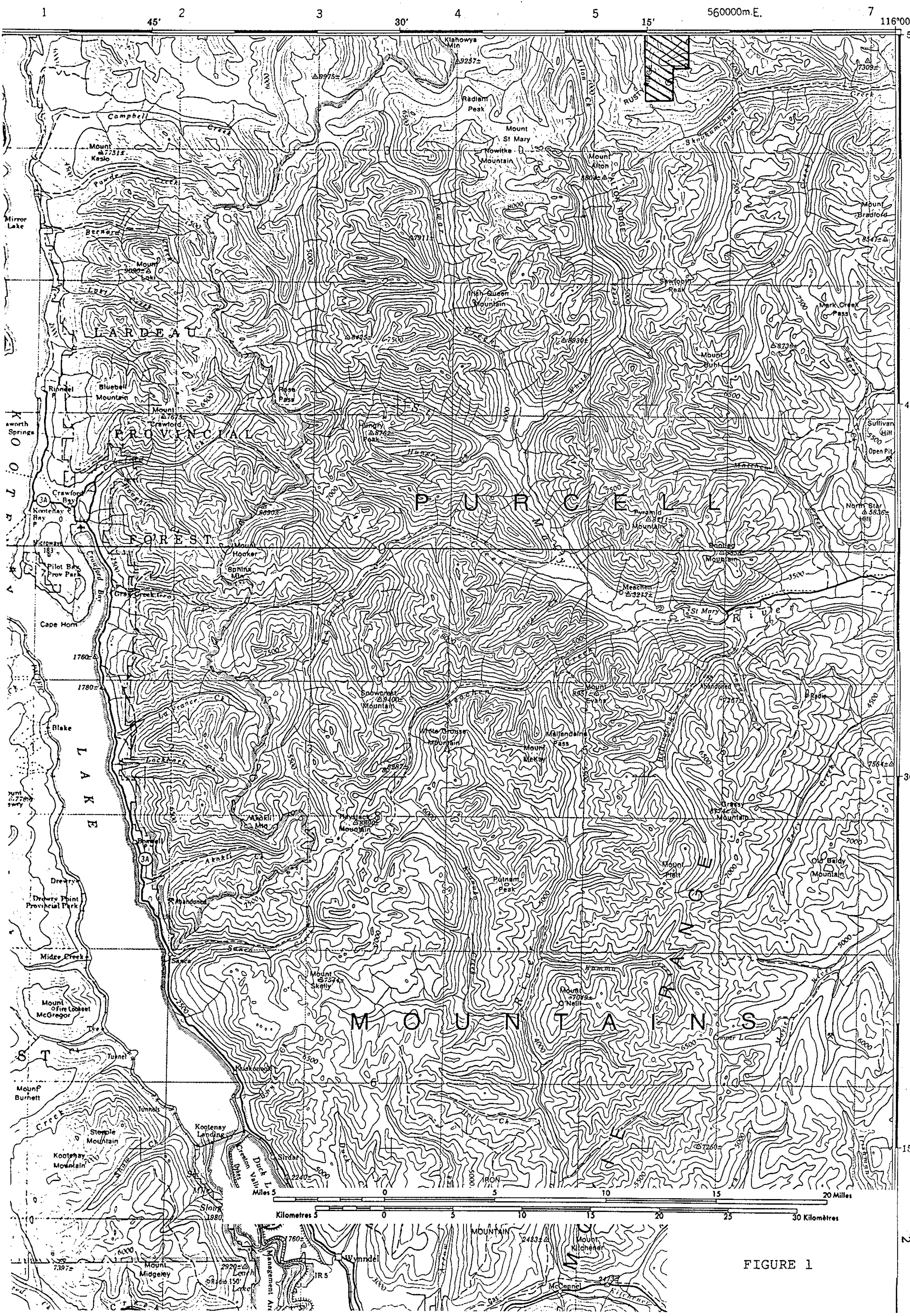
The Greenland Creek-Skookumchuck Creek area (Rusty Ridge) was sampled at various times during 1981 by Billiton Canada Ltd. personnel. A great many tin and tungsten anomalies were obtained along Greenland Creek, prompting follow-up work and ground acquisition in 1982. A scree sampling geochemical programme was completed in 1983. This report describes the results of the scree sampling programme.

B. LOCATION AND ACCESS (Figure 1)

The RR property is 32 km northwest of the Sullivan Mine and 35 km west of Skookumchuck, B.C. Access to the property is by helicopter; gravel road along Skookumchuck Creek, ends 5 km east of the property.

C. PROPERTY HISTORY (Figure 2)

Prior to 1960, a number of cassiterite-bearing quartz veins were staked in the Rusty Ridge area as the PIMACO group, but these claims were eventually allowed to lapse. The GAS 1 claim was staked in the same area during 1960, but it too was allowed to lapse. The SKO group, staked to cover the showings in 1965, was optioned by Newconex, who added additional claims and did one month's exploration working during 1966. The ground came open once again and the VAL group was staked in 1969. These claims were acquired by Arrow Inter-America Corporation the following year, who carried out an exploration program including 180 metres of diamond drilling. No significant work has been recorded in the area of Rusty Ridge since 1970.



560000m.E.
45'
30'
15'
116°00'
50°00'
Klahowya Mtn
Radiant Peak
Mount St Mary
Nowitke Mountain
Mount Alton
ALTON RIDGE
RUSTY RIDGE
Skookumchuck
Alton Ck
Campbell Creek
Mount Kaslo
Powder Creek
Mirror Lake
Bernard Creek
Mount Loki
Loki Creek
LARDEAU
Rinndel
Bluebell Mountain
Mount Crawford
Rose Pass
Hungry Peak
PROVINCIAL
FOREST
Crawford Bay
Kootenay Bay
Microwave
Pilot Bay Prov Park
Crawford Bay
Gray Creek
Mount Hooker
Sphinx Mtn
Cape Horn
Irish Queen Mountain
Sawtooth Peak
Mark Creek Pass
Mount Buhl
Mount Bradford
Sullivan Hill
Open Pit
North Star Hill
PURCELL
Pyramid Mountain
Bootleg Mountain
Meachen
St Mary L
River
Mount Evans
Abandoned
Radio
Snowcrest Mountain
White Grouse Mountain
Mallandaine Pass
Mount McKay
Haystack Mountain
Akokli Mtn
Akokli Ck
La France Ck
Lockhart Ck
Blake
LAKE
KOOTENAY
Boswell
3A
Drewry
Drewry Point Provincial Park
Abandoned
Sanca
Midge Creek
Mount McGregor
Fire Lookout
Tye
Tunnel
Tunnels
Mount Burnett
Steeple Mountain
Kootenay Mountain
Kootenay Landing
Kuskonook
Sirdar
Duck L
Creston Valley
Mount Skelly
Putnam Peak
Mount Fisher
Grassy Mountain
Old Baldy Mountain
Perry Creek
Mount O'Neill
Kamma Creek
Moyie River
MOUNTAINS
RANGE
Mount Midgeley
Wynndel
IR 5
Leach Lake
Management Area
Mount Kitchener
McConnel
Kitchener
Gas
IRON
MOUNTAIN
Miles 5 0 5 10 15 20 Milles
Kilometres 5 0 5 10 15 20 25 30 Kilomètres

FIGURE 1

M82K/1W

M82K/1E

M82F/16W

DOCTOR PK.

N

Doctor

ECHO 1
99(9)

ECHO 2
100(9)

ECHO 3
149(7)

ECHO 5
285(4)

ECHO 4
150(7)

900(7)

GOLD

FORT

H.R.P.L. 5
447(10)

H.R.P.L. 4
784(10)

H.R.P.L. 3
783(10)

HRPL 2
767(5)

HRPL 1
766(9)

BRUSH 1
790(10)

RR 8 REDUCED
1697(10)

RR 9
1698(10)

RR 7 REDUCED
1658(8)

RR 6
1657(8)

RR 5
1656(8)

RR 2
1653(8)

RR 3
1654(8)

RR 4
1655(8)

RR 1
1652(8)

RR10
2019(10)

M.D.

STEELE

FORT

RUSTY RIDGE

Limekiller

Greenhurst

Skaha Creek

MT. ALTON

ALT

Miles 1 .5 0 1 2 Miles

Metres 1000 500 0 1000 2000 3000 Metres

Kilometres 1 .5 0 1 2 3 Kilometres

FIGURE 2

PURCELL WILDERNESS CONSERVANCY
OIC 3801 4-12-74

In addition to the cassiterite occurrences along Rusty Ridge, a number of other mineral occurrences in the area have been intermittently worked. The MOLLY claims along the north fork of Skookumchuck Creek covered an occurrence of scheelite and molybdenite in skarn. Exploration work, including trenching and diamond drilling was done by Cominco Ltd. in 1959 and 1969, but the claims are now within the Purcell Wilderness Conservancy and off limits to further exploration.

Perhaps the most significant mineral occurrences in the area are the showings of scheelite and wolframite in the area north of Greenland Creek. The tungsten mineralization occurs in greisen veinlets within several sills of Moyie diorite. The PICO claims were staked to cover these showings, and exploration work, including trenching and diamond drilling was carried out by Cominco Ltd. in 1957, 1958 and 1968. The area was restaked in 1971 as the MC and NINE LAKE claims by Kerr-Addison Mines Ltd. Exploration programs were carried out in 1971, 1972 and 1975, including magnetometer surveys, soil sampling, road construction, trenching and diamond drilling. Much the same area was staked as the MOB claims by AMAX Minerals Exploration in 1978, who conducted a limited amount of exploration in 1978 and 1979.

Recent work includes that of Utah Mines Ltd., who restaked the old tin occurrences on Rusty Ridge during 1979 and carried out a soil sampling program in 1981. The headwater area of Greenland Creek was staked as the SKOOK claims by Minequest Exploration Associates during 1981, but no work was done on these claims and they were allowed to lapse.

BILLITON CANADA LTD. mineral claim data at Rusty Ridge are summarized below:

CLAIM NAME	UNITS	RECORD NO.	DATE OF RECORD
RR 1	18	1652(8)	August 12,1982
RR 2	18	1653(8)	August 12,1982

CLAIM NAME	UNITS	RECORD NO.	DATE OF RECORD
RR 6	20	1657(8)	August 12,1982
RR 7	15	1658(8)	August 12,1982
RR 8	12	1697(10)	October 13,1982
RR 9	4	1698(10)	October 13,1982
RR10	4	2019(10)	October 24,1983
RR11	6	2020(10)	October 24,1983
TOTAL	97		

D. REGIONAL GEOLOGY

1. Stratigraphy

A generalized geological map of the area north of the Sullivan Mine is shown on Figure 3. The oldest Purcell rocks exposed in the area are rusty-weathering siltstone and quartzite of the Proterozoic Lower Aldridge Formation. They are overlain by about 3000 metres of arenaceous quartzite turbidite beds and interbedded siltstone of the Middle Aldridge, and 300-400 metres of thin-bedded rusty-weathering argillite and siltstone of the Upper Aldridge Formation (Figure 4). The contact between the Lower and Middle Aldridge is gradational over a few tens to several hundred metres. Locally an intraformational conglomerate occurs at, or near the top of the Lower Aldridge. The Sullivan deposit occurs at this contact; this contact crosses the RR claims.

The Middle Aldridge comprises thick, grey quartz-wacke beds and interlayered laminated siltstone layers, intruded by a number of regionally extensive metagabbro sills. The form and contact relationships of the Moyie metagabbro sills (1430 ± 20 m.y.) are consistent with emplacement under 2 to 4 km of overlying sediment, indicating emplacement during deposition of the overlying Creston Formation. Locally, these sills are important markers within the thick Middle Aldridge section and allow correlation across many of the

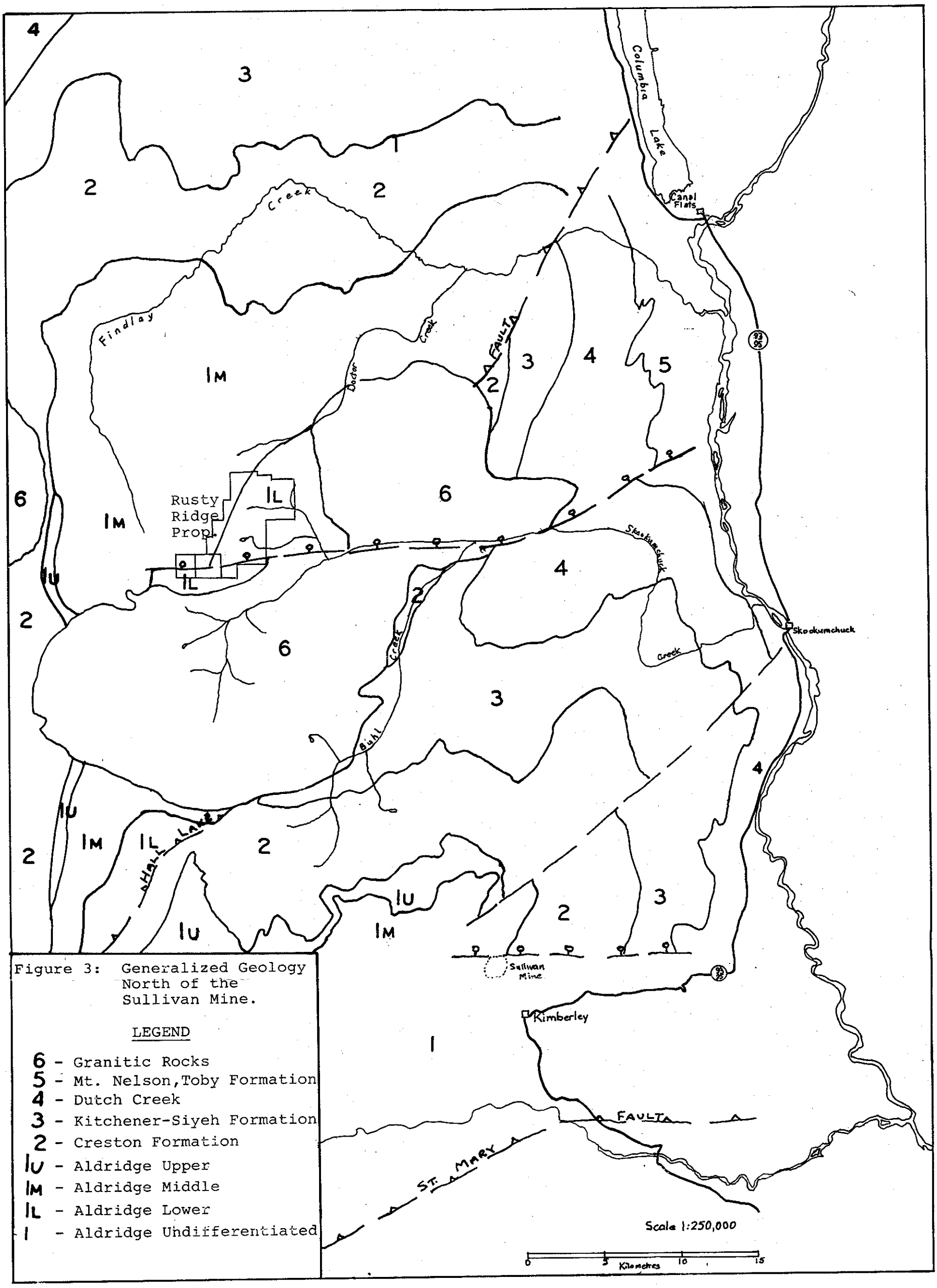


Figure 3: Generalized Geology North of the Sullivan Mine.

LEGEND

6 - Granitic Rocks
5 - Mt. Nelson, Toby Formation
4 - Dutch Creek
3 - Kitchener-Siyeh Formation
2 - Creston Formation
Iu - Aldridge Upper
Im - Aldridge Middle
Il - Aldridge Lower
1 - Aldridge Undifferentiated

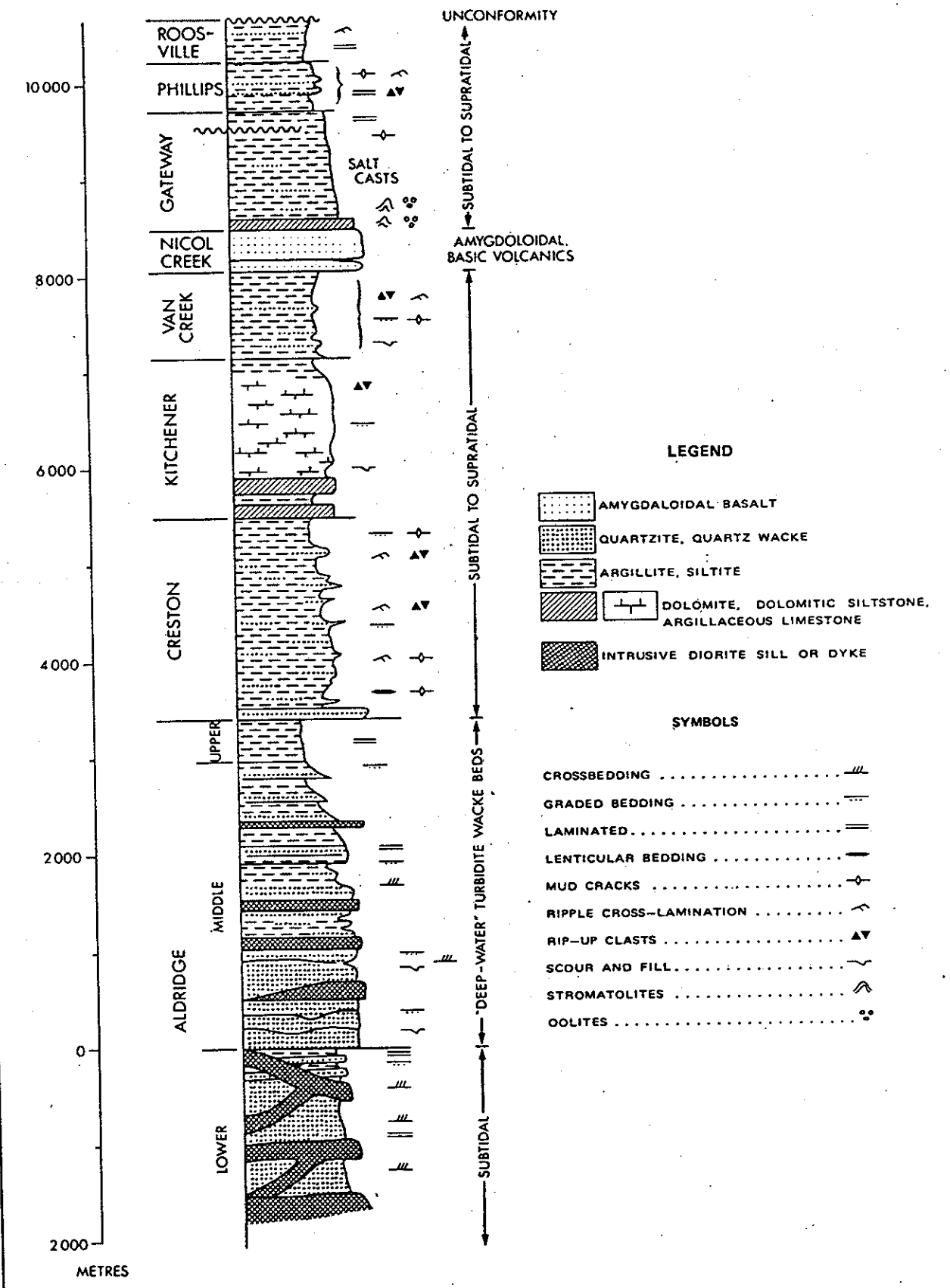


FIGURE 4. A composite stratigraphic column of the Purcell Supergroup in the Moyie Lake area

faults.

Cross-bedding in the Middle Aldridge indicates a basin axis running in a north-south direction through the centre of the outcrop area. Interturbidite argillaceous siltstone in the central part of the Middle Aldridge commonly consists of a sequence several metres thick of alternating dark and light laminations less than a millimetre to a few millimetres thick. Laminations in about a dozen of these laminated siltstone sequences can be matched across distances of up to three hundred kilometres. They are reliable stratigraphic markers that show correlation within the 3 kilometre thick Middle Aldridge succession. Overlying upper Purcell rocks are generally platformal in nature. The Creston Formation consists of shallow-water argillaceous quartzite, siltstone and argillite. It is overlain by platformal carbonate rocks of the Kitchener Formation. Shallow-water argillite, siltstone, dolomite and quartzite of the overlying Siyeh and Dutch Creek Formations give way upward to dolomite and dolomitic limestone of the Mount Nelson Formation. Basic volcanics of the Nicol Creek Formation are exposed along the southeastern margin of the Purcell Anticlinorium.

In summary, Lower Aldridge rocks are characterized by deep-water siltstone and occasional turbidite beds. Middle Aldridge time is marked by the introduction of extensive and thick accumulations of turbidite deposits. Locally, intraformational conglomerate, boron alteration zones and sulphide accumulations mark the transition between the Lower and the Middle Aldridge. The basin of turbidite deposition expanded and during Middle Aldridge time, overlapped inner fan deposits east of the Trench. Post-Aldridge rocks record deposition in an extensive, generally shallow-water marine, platform environment.

2. Structural Geology

Strata in the area are contained in the northeast-directed

Hosmer thrust sheet. The Hosmer thrust sheet forms the structurally highest and westernmost thrust sheet within this part of the Cordilleran foreland thrust and fold belt. In the Hosmer thrust sheet, northeast trending folds, which are transverse to the regional north to northwest structural grain of this part of the Cordillera, are widespread adjacent to the Moyie, St. Mary and Hall Lake faults (Figure 5).

The resulting structure of the southern Purcell Mountains comprises three en echelon segments of northeast-plunging anticlines, with intervening synclines supplanted by right-hand faults. This spatial association of transverse folds with the Moyie, St. Mary and Hall Lake right-hand reverse faults suggests that the folds must, in some way, be related to these major transverse faults. Workers in the area have suggested that the northeast trending structural grain, as evidenced by the above folds and faults, is inherited from older, fundamental faults that were active during sedimentation in Late Proterozoic and Lower Paleozoic time. Stratiform Pb-Zn deposits in Proterozoic rocks and occurrences of boron and intraformational conglomerate, are associated with the transverse faults (Figure 6).

E. PROPERTY GEOLOGY (Figure 3)

The RR claims are underlain for the most part, by rusty-weathering argillites, siltstone and quartzite belonging to the Proterozoic Lower Aldridge Formation. The Lower Aldridge is overlain in the northwestern corner of the claim block by grey turbidite wackes and laminated siltstone of the Middle Aldridge Formation. Along the western boundary of the claim block, intraformational conglomerate occurs sporadically along the contact between the two units. The contact between the Lower and Middle Aldridge Formations is most notable as the horizon at which the Sullivan orebody is developed. The contact is not particularly distinguishable

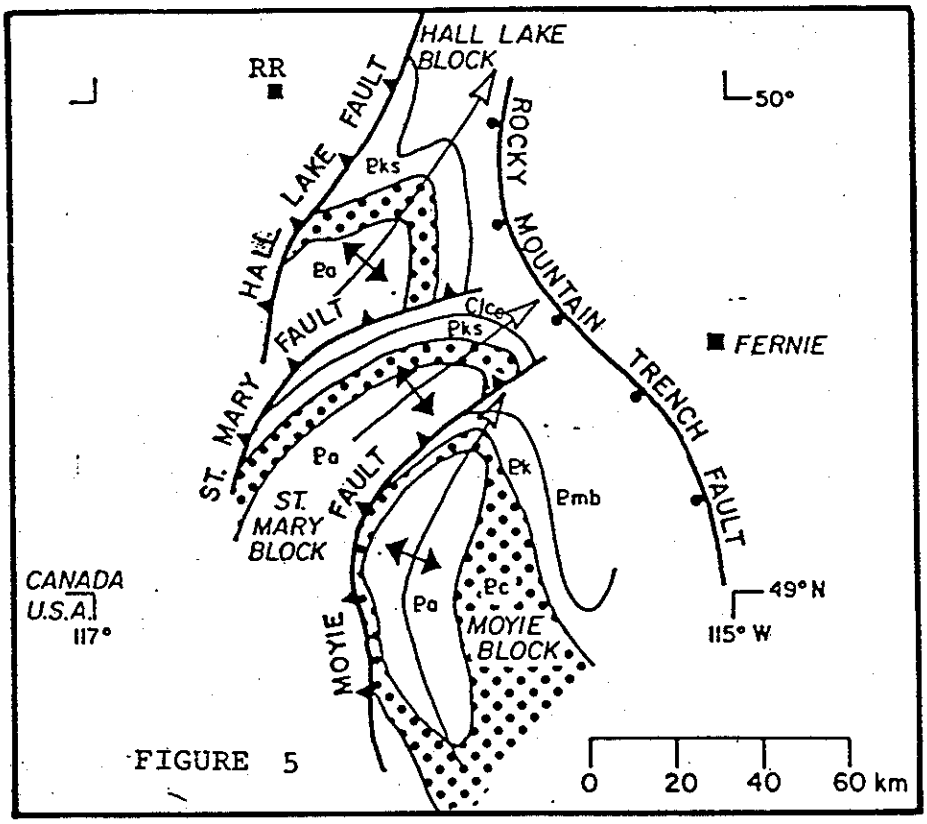


FIGURE 5

Schematic geological map of the southern part of the Purcell anticlinorium as three northeast-plunging anticlines with intervening right-hand reverse faults (after Dahlstrom, 1970).

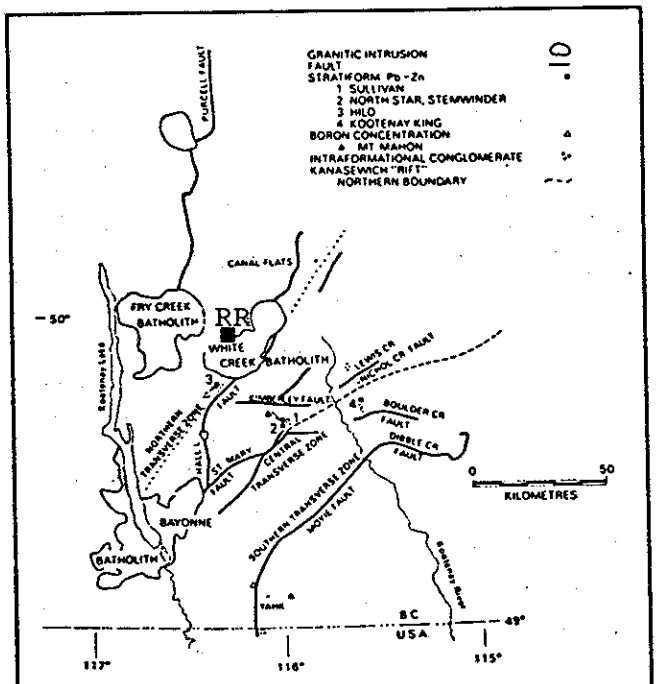


FIGURE 6 Location of northeast-trending structures, distribution of Pb-Zn deposits hosted by Proterozoic rocks, boron concentrations (Ethier and Campbell, 1977 and Gifford, 1971) and intraformational conglomerate (Gifford, 1971; Ransom, 1977a; Höy, 1979a; and Höy and Diakow, 1981).

in the field, but was taken as the last appearance of rusty-weathering argillite in the stratigraphic succession. Graded bedding and flame structures are noticeable only in the turbidite wackes of the Middle Aldridge Formation.

Intrusive into the Lower Aldridge Formation, and to a lesser extent, the Middle Aldridge, are a large number of basic sills of Proterozoic age, the Moyie Intrusions. The sills, which are generally conformable to bedding in the Aldridge, are comprised predominantly of meta-diorite, with most of the pyroxene having been replaced by amphibole. A thickness of 60 to 120 metres is common, with some sills reaching 300 metres in thickness. The diorite sills serve as excellent marker horizons within the Aldridge Formation, without which the complex structure of the area would be difficult to unravel.

The northeastern portion of the RR claim block is underlain by megacrystic (microcline) quartz monzonite of the Cretaceous White Creek Batholith. The south-central portion of the claim block is underlain by leucocratic quartz monzonite.

The regional structural trend is northeasterly, with the Aldridge Formation dipping at moderate angles to the northwest. As evidenced by the trace of the diorite sills, this trend has been much disrupted by secondary folding and minor faulting adjacent to the White Creek Batholith.

F. PROPERTY ECONOMIC GEOLOGY

The most important ore mineral on the property is scheelite, which is confined mainly to veinlets within the diorite sills. Spectacular occurrences are developed in the cirque area north of Greenland Creek (Figure 2), but only in a few areas does the vein density assume economic proportions. Wolframite occurs sporadically as large crystals within the greisen veinlets, but is not clearly as abundant as scheelite. Massive alteration and mineralization within the diorite is rare. Cassiterite was found in only one location as euhedral crystals in a

quartz vein, but similar occurrences are reported from the southwestern corner of the claim group. Beryl is common in large crystals within the pegmatite bodies south of Greenland Crek, and molybdenite is reported from the leucocratic quartz monzonite body south of Nine Creek.

Recognizable alteration on the RR claims is generally confined to the Moyie diabase, along with most of the significant mineralization. In certain localities, notably the cirque area north of Greenland Creek, the diorite sills are cut by a network of greisen veinlets and white felsic veinlets of unknown mineralogy. In most instances, the veinlets are thin and subparallel, but veinlet stockworks, as well as massive greisen alteration, are also known. The veinlets, on occasion, reach widths of half a metre or more. The veinlet alteration extends only weakly into the enclosing Aldridge metasediments. The diorite sills appear to be acting as skarn horizons in the absence of calcareous sediments, with plagioclase being albitized, to provide calcium for the formation of scheelite.

Tourmaline is a common accessory mineral within the Lower Aldridge sediments, usually occurring in veinlets and on fracture faces. The boron has probably been mobilized from the enclosing sediments during thermal metamorphism, and no special significance is ascribed to these occurrences.

The geochemical survey programme tested RR stratigraphy for stratabound Sn-W and stratiform Zn-Pb-Ag mineralization.

G. 1983 GEOCHEMICAL SURVEY PROGRAMME

A programme of scree-fine sampling was completed along four traverse lines (samples 175 to 418) in the general area of the Lower/Middle Aldridge contact. The 244 samples were analyzed for Ag, Cu, Pb, Zn, W, Sn and Mo.

Ag, Cu, Pb, Zn Analyses

A half-gram of sample was digested in a nitric-perchloric acid mixture for four hours. After dilution to 10 ml, the sample was analyzed by Atomic Absorption Spectrophotometry.

W Analyses

A one-gram sample was fluxed with $KCl-KNO_3-Na_2CO_3$ fusion mixture and leached with water. An aliquot was removed and a color complex formed with Lithiol was measured colorimetrically.

Sn Analyses

A one-gram sample was fused with ammonium iodine and the sublimate leached with dilute Hydrochloric acid. An aliquot was removed and a color complex formed with Gallein was measured colorimetrically.

Size Fractions

Element	Size Fraction
Ag	-80 mesh
Cu	-40+80 mesh
Pb	-40+80 mesh
Sn	-10+80 mesh
W	-40+80 mesh
Zn	-40+80 mesh

Sample Statistics

Element	Mean ($\overline{X}$)	Standard Dev.	Anomalies
Ag	0.2 ppm	0.2 ppm	0.6 ppm
Cu	137 ppm	110 ppm	350 ppm
Pb	50 ppm	50 ppm	200 ppm
Zn	200 ppm	200 ppm	400 ppm
W	230 ppm	490 ppm	1000 ppm
Sn	27 ppm	27 ppm	100 ppm

Anomalous geochemical results for tin and tungsten are associated with known tungsten mineralization in the Moyie Intrusives.

Anomalous values for zinc are most consistently evident in the Three Cirques area on claim RR 8. These values are coincident with spotty, elevated and sometimes anomalous, tungsten.

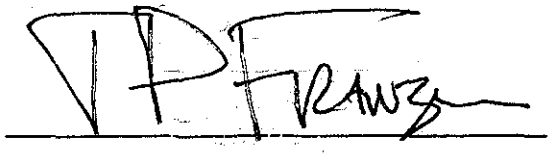
Anomalous values for lead are infrequent and, at times, show a correlation with zinc. Elsewhere, high lead values are isolated.

Anomalous values for silver generally correlate with elevated levels of either zinc or lead.

Copper anomalies are, at best, spotty, and show a degree of correlation with elevated zinc values.

H. CONCLUSIONS AND RECOMMENDATIONS

A scree-fine geochemical sampling programme on the RR claims has outlined a number of sites with anomalous values in any one, or all of the following elements: Ag, Cu, Pb, Zn, Sn, W. Tungsten-tin mineralization is known to occur in diorite sills in the area; in addition, a favorable stratigraphic horizon for zinc-lead-silver mineralization crosses the property. A geological mapping programme should evaluate the property for the economic potential of these two styles of mineralization.



J.P. Franzen

COST STATEMENT

Personnel

1. September 1-15, 1983

D. Leishman	15 days @$100/day	=	$1500.00
W. Shanks	15 days @ $85/day	=	1275.00
			2775.00

2. August 3-12, 1984

M. Carr	10 days @$119/day	=	1190.00
H. Sutherland	10 days @$71/day	=	710.00
E. Jones	10 days @ $71/day	=	710.00
J. Monger	10 days @ $71/day	=	710.00
			3320.00

Geochemical Analyses

244 samples analyzed for - Ag,Pb,Zn,Cu,Sn,W,Mo	@$19.35/sample=	4721.00

Support

1. September 1-15, 1983

Helicopter	2 hours @ $450/hour	=	900.00
Food	30 man/days @$10/day	=	300.00
			1200.00

2. August 3-12, 1984

Helicopter	3.3 hours @$485/hour	=	1584.00
Food	40 man/days @ $10/day	=	400.00
			1984.00

TOTAL $14,000.00

GEOCHEMICAL DATA

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 | Billiton Canada | Date Nov.2, 1983

Client Project 934

P.O. 1787

Page 1/10

Sample No.	(-80) Ag ppm	(-40+80) Cu ppm	(-10+80) Mo ppm	(-40+80) Pb ppm	(-10+80) Sn ppm	(-40+80) W ppm	(-40+80) Zn ppm
934-83-175	-0.1	270	-1	10	3	1360 +	360
176	-0.1	80	-1	8	3	250	210
177	-0.1	86	1	12	-1	28	136
178	0.1	89	1	24	3	41	205
179	0.5	28	1	15	-1	20	45
180	0.1	22	2	16	1	14	40
181	0.3	63	3	14	2	86	102
182	0.4	210	3	39	3	69	194
183	0.1	310	1	7	4	100	270
184	0.3	370	3	9	56	430	320
185	0.3	119	2	30	10	70	115
186	0.3	89	2	36	-1	34	107
187	0.3	103	3	28	1	50	130
188	0.3	134	2	330	2	62	168
189	0.4	98	2	126	4	50	92
190	0.6	83	2	560	2	66	79
191	0.3	39	2	40	-1	20	73
192	0.1	53	-1	27	-1	32	71
193	0.4	230	2	35	1	358	191
194	0.2	69	2	14	1	30	93
195	0.1	121	3	19	1	49	108
196	-0.1	230	2	17	9	1050 †	184
197	0.1	133	1	12	8	3950 †	200
198	0.2	61	2	20	2	I.S.	156
199	0.1	188	3	14	5	2000 †	220

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 Date

Client Project Page 2/10

Sample No.	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Sn ppm	W ppm	Zn ppm
934-83-200	0.2	230	2	10	7	160	280
201	1.0	480	4	7	21	950	360
202	0.1	440	3	7	11	575	470
203	0.1	290	2	9	8	750	420
204	0.3	410	3	8	7	400	720
205	0.4	350	1	9	3	415	580
206	0.3	350	1	8	7	300	580
207	0.3	280	-1	7	36	890	400
208	0.3	220	1	23	3	825	390
209	0.1	46	1	8	11	570	170
210	-0.1	26	3	15	4	104	47
211	0.2	98	2	68	154	88	146
212	0.3	120	2	49	28	175	210
213	0.1	127	3	28	21	210	183
214	0.1	170	1	18	42	285	230
215	0.2	174	2	45	110	159	310
216	-0.1	132	1	7	90	340	230
217	0.1	147	1	14	9	460	206
218	0.1	138	2	13	9	575	201
219	0.1	210	2	1	64	1040	240
220	0.2	260	3	10	9	1290	210
221	0.1	110	2	27	10	345	115
222	0.1	250	1	9	58	625	215
223	0.1	250	2	50	5	285	120
224	0.1	139	3	13	3	98	112

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 Date

Client Project Page 3/10

Sample No.	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Sn ppm	W ppm	Zn ppm
934-83-225	0.1	220	2	12	2	100	109
226	-0.1	220	2	8	20	48	240
227	0.2	184	1	9	1	50	62
228	-0.1	124	2	7	80	540	80
229	0.2	123	2	13	29	137	240
230	0.3	136	3	13	10	104	134
231	-0.1	50	2	7	-1	10	122
232	-0.1	50	1	8	-1	20	62
233	0.2	45	2	33	-1	14	129
234	0.2	62	2	24	-1	12	128
235	0.1	44	-1	20	-1	2	41
236	0.1	58	1	30	-1	16	83
237	0.1	35	1	33	-1	4	84
238	0.3	23	10	61	-1	24	54
239	0.2	16	1	9	-1	5	58
240	0.2	139	1	25	-1	54	194
241	-0.1	110	2	15	-1	3	101
242	0.2	91	2	72	-1	4	178
243	0.2	82	2	63	-1	10	210
244	-0.1	68	3	14	-1	2	136
245	0.1	75	-1	22	-1	1	159
246	0.1	71	2	20	1	4	136
247	0.1	68	1	23	-1	4	164
248	0.1	57	1	28	-1	2	159
249	0.1	54	2	28	-1	5	176

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 Date

Client Project Page 4/10

Sample No.	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Sn ppm	W ppm	Zn ppm
934-83-250	-0.1	40	2	35	-1	4	91
251	0.1	54	2	105	-1	5	197
252	0.1	45	2	61	-1	4	140
253	0.1	70	1	87	1	6	178
254	0.1	100	2	48	-1	4	240
255	0.1	75	1	29	-1	4	173
256	0.2	107	2	45	-1	5	240
257	0.4	80	3	36	1	4	250
258	0.2	84	2	59	-1	10	192
259	0.3	96	2	105	5	9	210
260	0.1	104	2	30	1	6	156
261	0.3	106	2	78	1	24	136
262	0.7	136	2	380	-1	12	280
263	0.8	175	2	129	-1	111	360
264	0.3	260	1	40	9	725	250
265	0.3	139	1	131	6	235	139
266	0.6	142	-1	106	22	179	209
267	0.5	350	-1	26	40	790	320
268	0.1	280	-1	17	30	700	290
269	-0.1	125	-1	15	22	710	390
270	0.4	146	2	27	-1	845	320
271	0.1	70	-1	28	1	650	390
272	0.4	70	-1	100	1	315	320
273	0.2	138	2	22	-1	151	130
274	0.4	144	2	70	-1	162	340
275	0.7	160	2	74	-1	90	230

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 Date

Client Project Page 5/10

Sample No.	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Sn ppm	W ppm	Zn ppm
934-83-276	0.8	197	3	144	1	310	340
277	0.3	190	2	22	5	340	360
278	0.2	142	2	17	3	150	670
279	0.1	300	3	30	6	400	320
280	0.4	70	2	17	-1	34	82
281	0.3	138	3	115	-1	540	420
282	0.9	103	2	65	-1	300	220
283	0.4	130	3	93	1	127	400
284	0.3	151	3	54	1	154	530
285	0.2	75	1	28	2	925	570
286	0.4	99	2	22	1	650	500
287	0.3	173	1	10	38	350	240
288	0.4	167	1	16	22	710	300
289	0.7	390	-1	71	56	1180	400
290	0.5	240	1	30	9	760	203
291	0.4	230	2	54	7	300	198
292	0.3	87	-1	25	1	100	64
293	0.2	98	-1	29	3	66	67
294	0.4	122	1	129	-1	19	120
295	0.7	97	2	240	-1	15	214
296	0.3	106	2	61	1	40	183
297	1.0	182	3	360	3	400	460
298	0.4	230	3	80	3	800	530
299	0.5	118	2	195	2	385	450
300	0.4	134	3	94	4	350	550

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 Date

Client Project Page 6/10

Sample No.	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Sn ppm	W ppm	Zn ppm
934-83-301	0.4	150	1	38	44	608	550
302	0.3	82	-1	36	2	320	300
303	0.4	103	-1	79	13	275	510
304	0.1	67	-1	18	6	400	400
305	0.1	91	-1	15	34	800	380 *
306	0.2	158	-1	39	22	1125	290
307	0.2	113	-1	30	14	186	230
308	0.7	330	-1	175	19	1170	620
309	0.6	250	-1	160	9	795	710
310	0.6	123	-1	85	4	1065	240
311	0.2	128	-1	46	3	305	215
312	2.1	87	-1	770	2	86	570
313	0.5	117	-1	99	-1	51	205
314	0.1	132	-1	37	1	100	300
315	0.3	310	-1	69	2	110	480
316	0.4	260	1	61	6	275	800
317	0.3	183	2	49	4	1150	470
318	0.5	290	-1	76	7	400	660
319	0.4	157	1	73	4	342	600
320	0.9	127	-1	94	2	138	630
321	0.3	126	1	50	2	46	490
322	0.1	115	-1	44	3	20	360
323	0.1	90	-1	38	9	22	250
324	0.4	159	-1	173	2	70	660
325	1.4	167	-1	270	3	58	250

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 Date

Client Project Page 7/10

Sample No.	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Sn ppm	W ppm	Zn ppm
934-83-326	1.0	115	-1	430	3	38	1190
327	0.2	67	1	140	1	16	139
328	0.3	43	9	24	1	26	330
329	0.9	150	2	95	3	162	620
330	1.0	136	1	100	2	119	530
331	0.7	120	2	97	1	169	450
332	0.5	138	2	72	1	130	360
333	0.4	147	2	63	1	190	340
334	0.4	79	-1	74	1	490	450
335	0.3	178	1	67	2	170	300
336	0.5	390	2	49	7	940	330
337	0.1	280	1	29	8	1575	119
338	0.2	370	1	37	13	445	151
339	0.2	175	1	13	7	475	230
340	1.1	92	-1	410	1	245	640
341	0.8	189	3	300	6	420	690
342	0.2	51	-1	29	3	90	173
343	0.1	80	2	21	1	155	185
344	0.1	35	1	28	-1	40	123
345	-0.1	22	-1	26	-1	16	108
346	0.1	48	2	23	-1	49	141
347	0.3	85	2	48	2	490	660
348	0.1	72	1	30	1	355	160
349	0.2	86	1	210	3	5750	560
350	0.1	20	-1	14	-1	27	108

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 Date

Client Project Page 8/10

Sample No.	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Sn ppm	W ppm	Zn ppm
934-83-351	-0.1	77	-1	15	8	128	176
352	-0.1	42	-1	10	8	108	215
353	-0.1	49	-1	5	5	52	202
354	0.1	230	3	10	20	385	320
355	0.1	108	3	44	5	118	230
356	0.1	108	1	36	1	12	172
357	0.1	106	-1	28	2	22	161
358	0.1	177	-1	23	2	96	200
359	0.1	135	1	60	1	13	240
360	0.1	103	-1	54	2	10	220
361	0.5	92	-1	340	3	70	440
362	0.4	93	1	143	5	40	380
363	0.3	100	1	91	-1	30	320
364	0.6	107	2	89	2	750	540
365	0.6	103	-1	157	8	550	800
366	0.8	109	-1	91	6	160	590
367	0.1	107	-1	34	16	64	161
368	0.1	107	-1	71	7	34	220
369	0.2	63	1	220	-1	16	270
370	-0.1	105	1	37	1	30	129
371	-0.1	106	-1	6	4	20	101
372	0.1	170	2	36	115	62	370
373	0.1	142	-1	11	2	10	142
374	0.6	350	-1	20	410	1155	151
375	-0.1	107	-1	18	9	49	214

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 Date

Client Project Page 9/10

Sample No.	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Sn ppm	W ppm	Zn ppm
934-83-376	0.2	310	1	25	31	2450	190
377	0.1	173	1	15	30	80	157
378	-0.1	46	-1	15	5	26	155
379	-0.1	52	1	43	2	30	110
380	0.1	93	1	56	2	16	138
381	0.4	35	2	60	1	14	84
382	0.3	48	3	41	8	10	117
383	0.1	40	2	27	2	6	125
384	-0.1	44	1	17	2	5	111
385	-0.1	35	-1	6	5	6	148
386	0.2	52	-1	40	2	84	207
387	0.7	67	-1	1160	4	255	1410
388	-0.1	80	-1	8	2	26	137
389	0.1	114	-1	13	3	70	220
390	-0.1	93	1	13	2	31	124
391	-0.1	270	-1	17	10	830	380
392	0.3	540	2	23	46	995	250
393	0.4	240	3	46	11	1055	270
394	0.2	220	1	32	27	1600	260
395	0.2	125	1	28	81	515	220
396	0.2	172	-1	42	230	320	400
397	0.4	240	-1	31	380	1240	660
398	0.6	136	1	108	8	120	490
399	0.2	47	2	68	1	20	240
400	0.1	57	2	44	1	18	210

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

TERRAMIN RESEARCH LABS LTD.

ANALYTICAL REPORT

Job # 83-294 Date

Client Project Page 10/10

Sample No.	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Sn ppm	W ppm	Zn ppm
934-83-401	0.4	70	1	55	1	5	280
402	0.3	52	4	24	2	9	186
403	0.5	100	3	83	-1	10	300
404	0.6	80	2	104	1	9	320
405	0.2	79	2	44	1	6	138
406	0.4	91	1	197	-1	8	280
407	2.4	87	-1	490	1	6	350
408	0.3	59	-1	170	-1	5	173
409	0.2	50	-1	63	-1	6	143
410	0.3	62	-1	115	-1	16	205
411	0.4	50	-1	210	1	5	300
412	0.3	51	-1	45	-1	6	156
413	0.2	128	2	47	-1	12	220
414	0.5	99	2	87	1	26	350
415	0.3	133	3	52	-1	14	240
416	0.5	184	3	68	2	18	330
417	0.1	113	2	23	1	14	149
418	0.1	97	1	28	1	26	161

14, 2235 - 30th Avenue N.E., Calgary, Alberta T2E 7C7
(403) 276-8668 Telex 03-821172 CGY

CERTIFICATE OF QUALIFICATIONS

I, Jeffrey Paul Franzen, of 4990 Cedarcrest Avenue, North Vancouver, B.C., hereby certify that:

1. I am Regional Geologist for Billiton Canada Ltd., with offices at 460- 601 West Cordova Street, Vancouver, B.C.

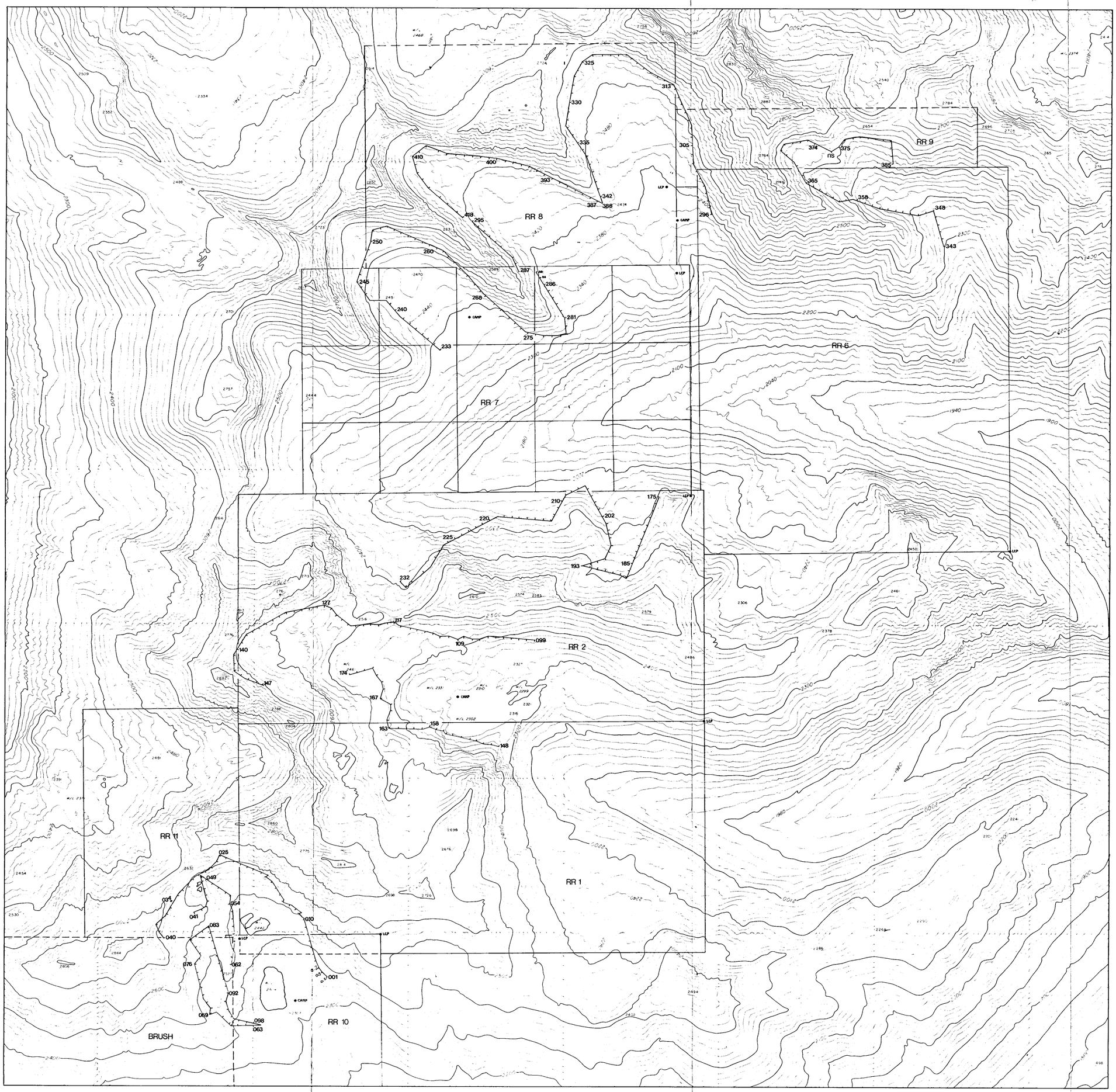
2. I am a graduate of the University of British Columbia (B.Sc. Geology 1972) and Carleton University (M.Sc. Geology 1974).

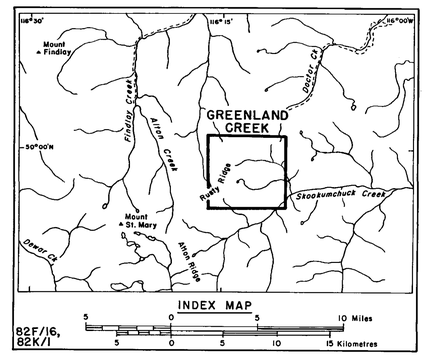
3. I have practiced my profession continuously since 1974.

4. I am a member in good standing of the Association of Professional Engineers of B.C. and a Fellow of the Geological Association of Canada.

August 21, 1984.

J.P. Franzen,P.Eng.





GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,632

BILLITON CANADA LTD.

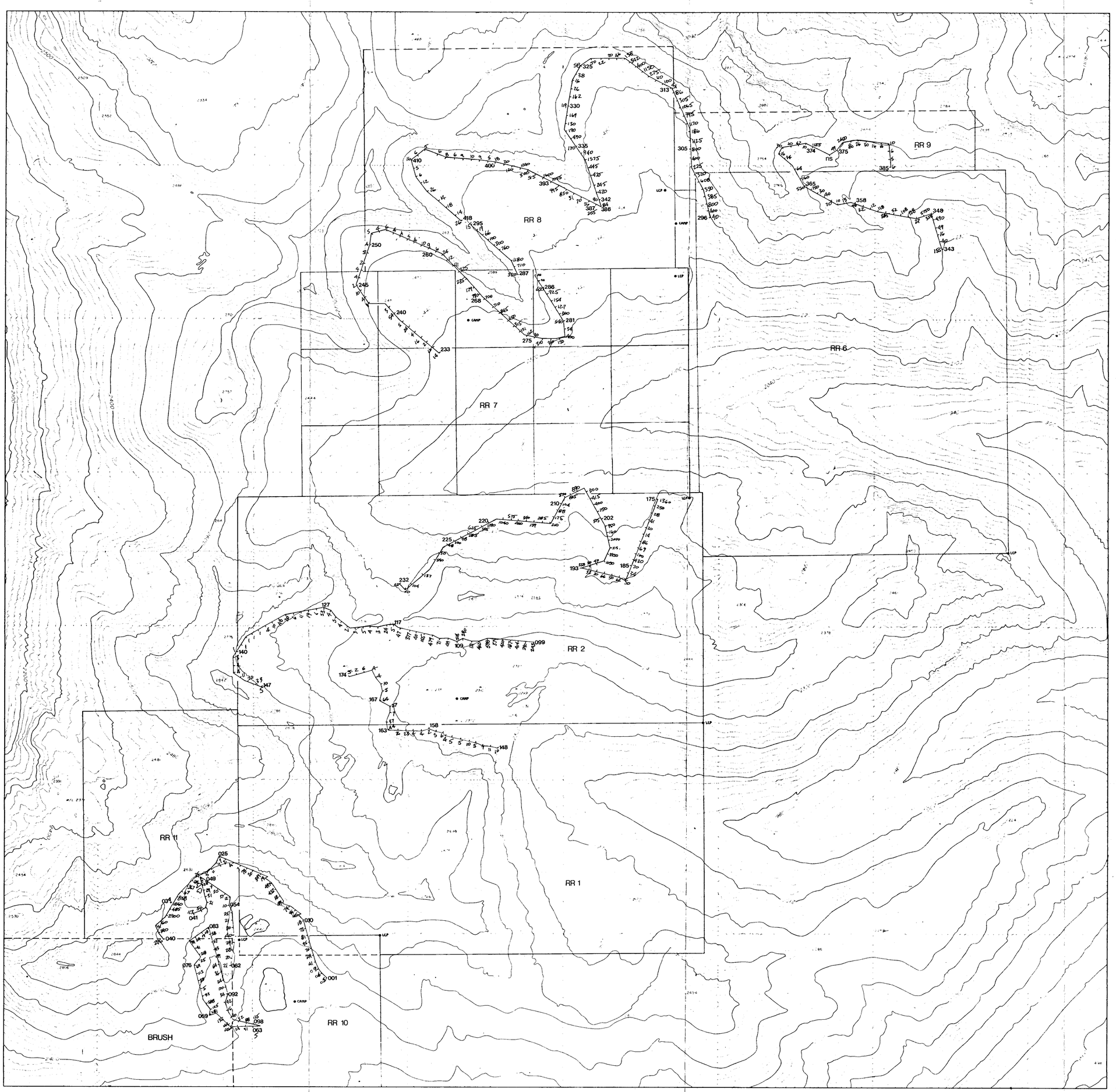
PURCELL PROJECT

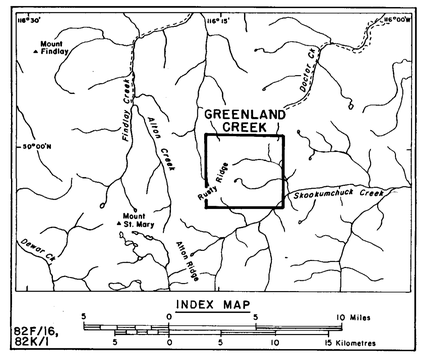
GREENLAND CREEK

CLAIM AND SAMPLE LOCATION MAP

AUTHOR:	MAP No: 934 - 1	SCALE: 1/10,000
DRAWN BY: komi	REPORT:	ENCL. No:

200 0 200 400 600 Metres
500 0 1000 2000 Feet





GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,632

BILLITON CANADA LTD.

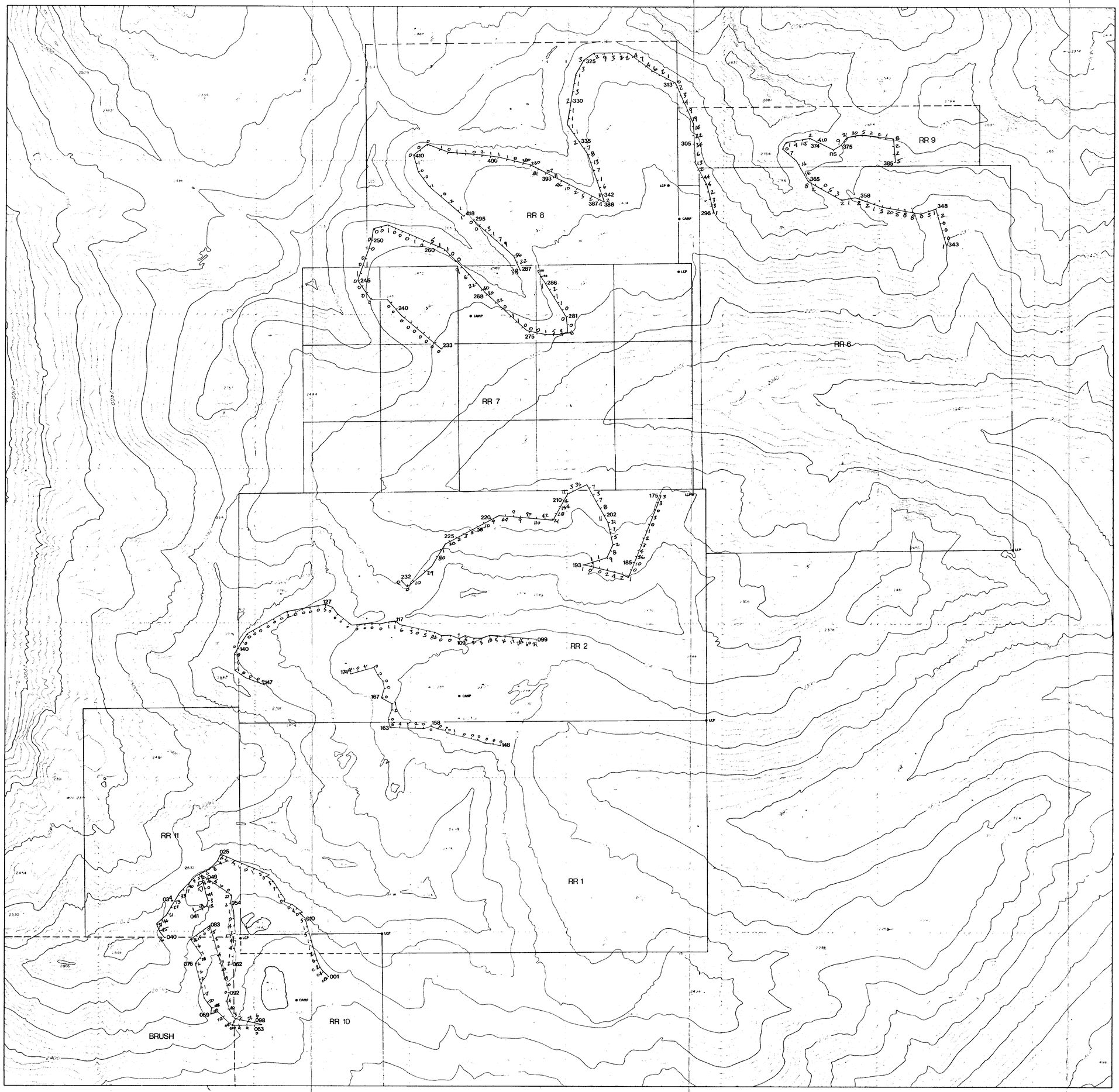
PURCELL PROJECT

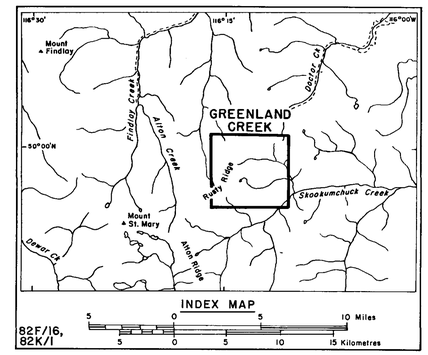
GREENLAND CREEK

TUNGSTEN GEOCHEMISTRY

AUTHOR:	MAP No: 934 - 2	SCALE: 1/10,000
DRAWN BY: koml	REPORT:	ENCL. No:

200 0 200 400 600 Metres
500 0 1000 2000 Feet





TRUE NORTH
MAG. NORTH

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,632

BILLITON CANADA LTD.

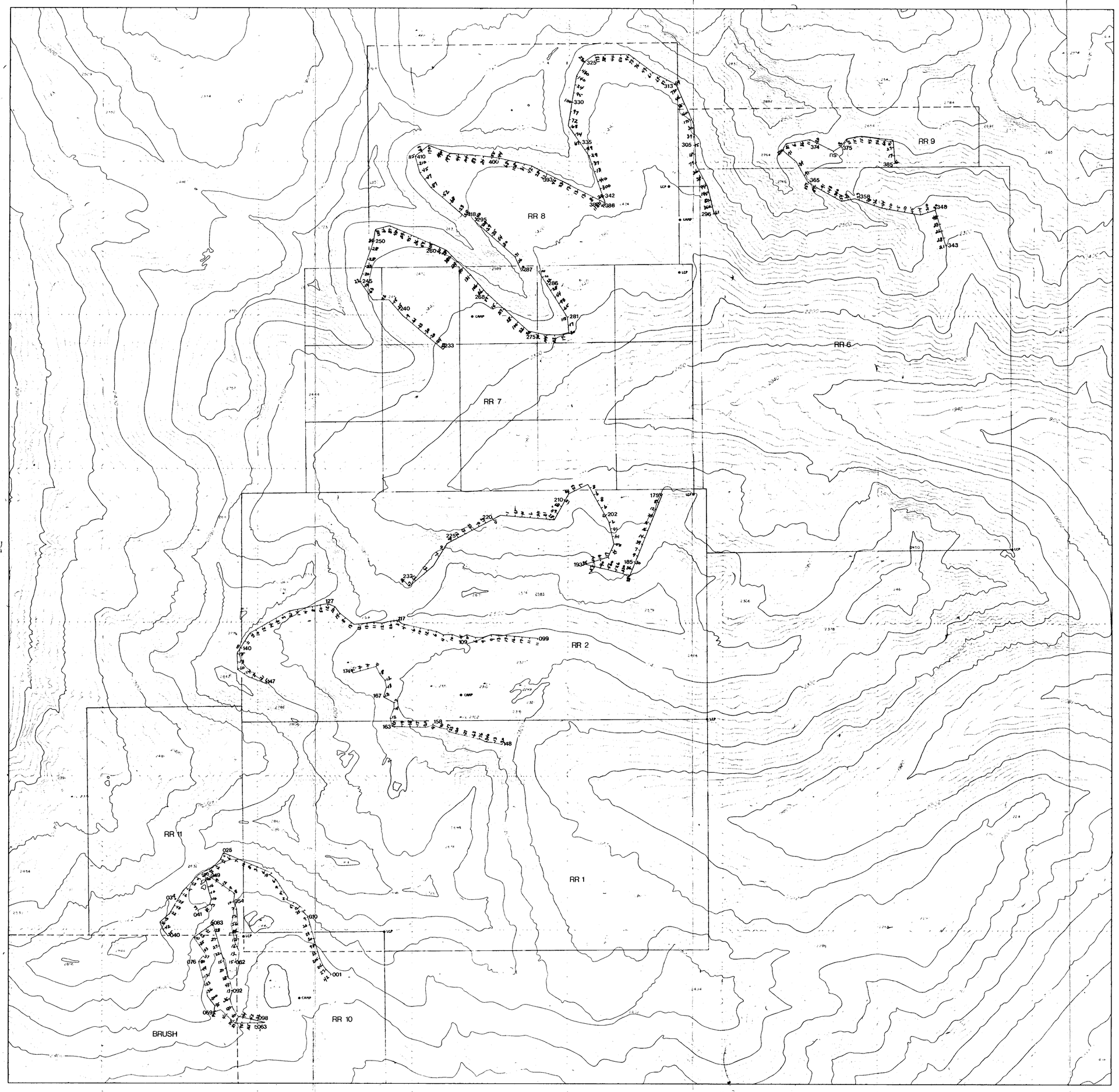
PURCELL PROJECT

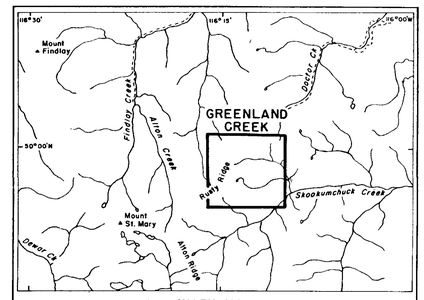
GREENLAND CREEK

TIN GEOCHEMISTRY

AUTHOR:	MAP No: 934-3	SCALE: 1/10,000
DRAWN BY: komi	REPORT:	ENCL. No:

200 0 200 400 600 Metres
500 0 1000 2000 Feet





GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,632

BILLITON CANADA LTD.

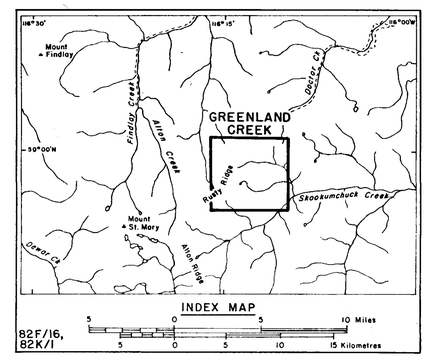
PURCELL PROJECT

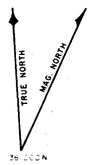
GREENLAND CREEK

LEAD GEOCHEMISTRY

AUTHOR:	MAP No: 934 - 4	SCALE: 1/10,000
DRAWN BY: koml	REPORT:	ENCL. No:

200 0 200 400 600 Metres
500 0 1000 2000 Feet





RR 8

RR 9

RR 6

RR 7

RR 2

RR 11

RR 1

RR 10

BRUSH

LCP

CAMP

Zn

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,632

BILLITON CANADA LTD.

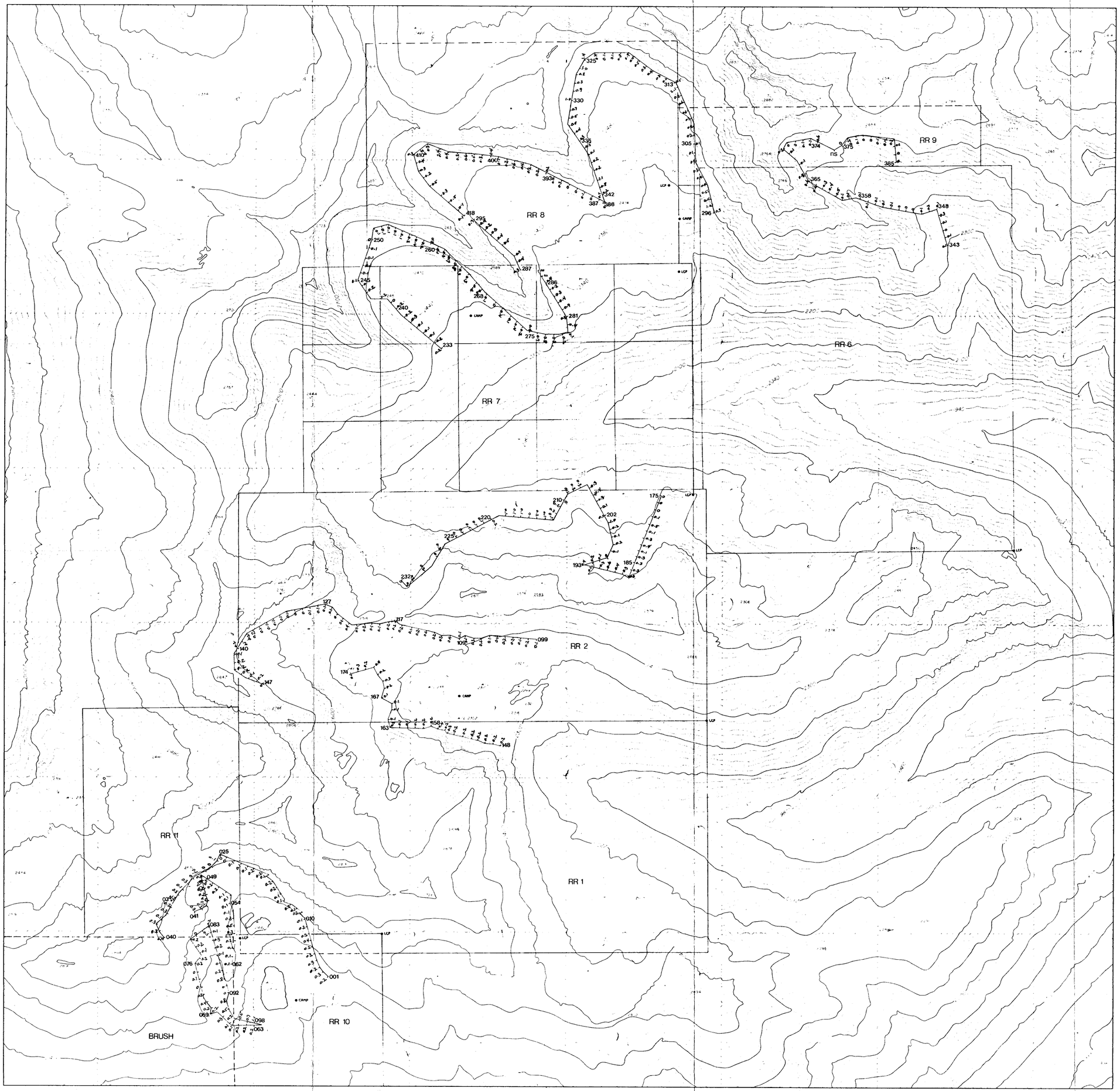
PURCELL PROJECT

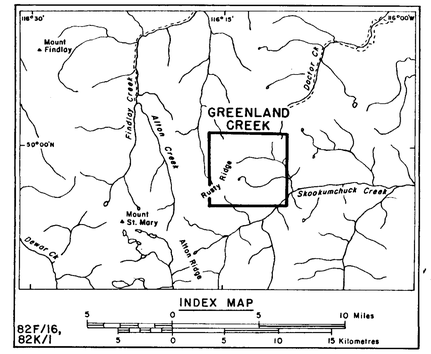
GREENLAND CREEK

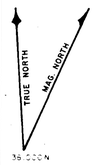
ZINC GEOCHEMISTRY

AUTHOR:	MAP No: 934-5	SCALE: 1/10,000
DRAWN BY: komi	REPORT:	ENCL. No:

200 0 200 400 600 Metres
500 0 1000 2000 Feet







GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,632

BILLITON CANADA LTD.

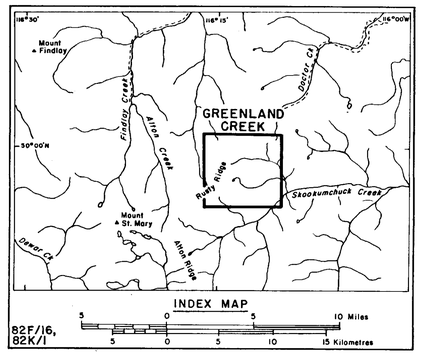
PURCELL PROJECT

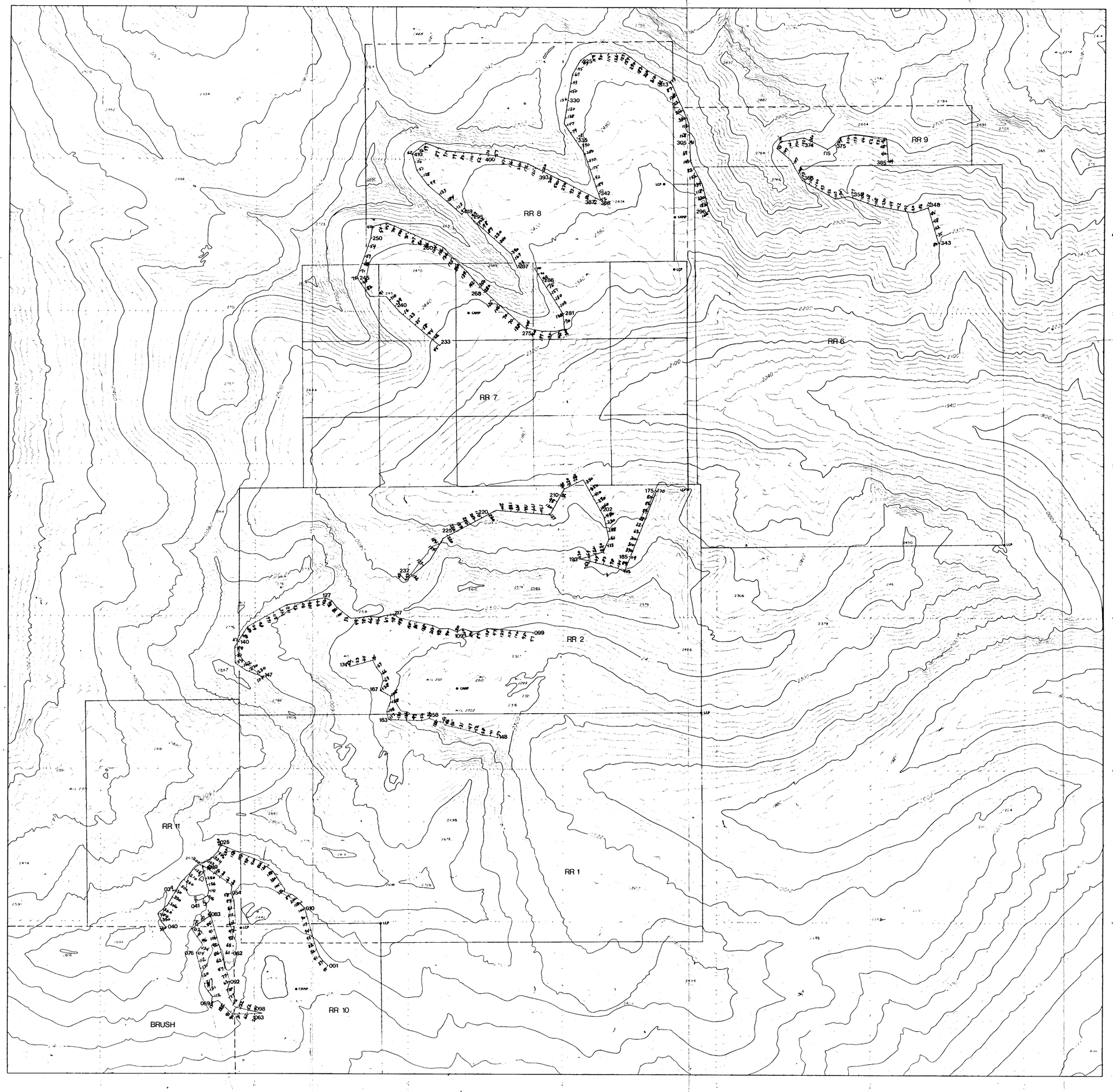
GREENLAND CREEK

SILVER GEOCHEMISTRY

AUTHOR:	MAP No: 934 - 6	SCALE: 1/10,000
DRAWN BY: kml	REPORT:	ENCL. No:

200 0 200 400 600 Metres
500 0 1000 2000 Feet





GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,632

BILLITON CANADA LTD.

PURCELL PROJECT

GREENLAND CREEK

COPPER GEOCHEMISTRY

AUTHOR:	MAP No: 934-7	SCALE: 1/10,000
DRAWN BY: koml	REPORT:	ENCL. No:

200 0 200 400 600 Metres
500 0 1000 2000 Feet